

Tetsuo KOYAMA*: Taxonomic study of Cyperaceae 6.**

小山 鉄 夫: カヤツリグサ科の分類学的研究 6.

§ 13. A new species of *Carex* from Mt. Tateshina, Central Japan.

More than thirty years ago, Mr. K. Chino, an excellent plant collector in the province of Shinano, found an interesting sedge of the section *Montanae*, near the summit of Mt. Tateshina. He sent it to Dr. Ohwi for identification, however, since the specimen was not perfect, Dr. Ohwi did not publish this sedge though he prepared a new name, *Carex Chinoi*. Recently Mr. Chino again sent Dr. Ohwi a duplicate material of the said species which is perfect enough to describe. At Dr. Ohwi's request, here I publish the description which I made from the latter material.

Carex Chinoi Ohwi ex T. Koyama, spec. nova ex affinitate *Caricis oxyandrae* (Fr. et Sav.) Kudo quae utriculis minoribus anguste obovatis brevirostratis, squamis florum foeminearum fulvis non castaneopurpureis apice acutioribus, vaginis basilari-bus etiam fulvescentibus in fibras laxius solutis valde dissimilis est.

Herba perennis caespitans, rhizomate longiuscule ascendente lignescente fibris breviusculis flavofuscis sublaxe vestitis, innovationibus ascendentibus agente. Folia anguste linearia 1-1.5 mm lata dimidium culmi aequantia mollia ad apicem longe acuminatam sensim attenuantia basi longe vaginata. Vaginae basilares inferiores subaphyllae flavofuscae demum in fibras laxae solutae. Culmi graciles erecti 25-33 cm alti triquetri scabruguli sulcati. Spiculae 2-3 apice culmi aggregatae vel ima tantum remota omnes sessiles; terminalis mascula linearilanceolata erecta 5-10 mm longa 1-1.5 mm late apice acuta fulva multiflora; reliquae foemineae globulosae 3-6 mm in diametro densiflorae. Bracteae setaceae ima cum spicula sua subaequans vel ea brevior raro paullo longior evaginantes. Prophyllum subpocilliforme tenuiter membranaceum. Squamae foemineae ellipticae vel oblongo-ovatae 2.5 mm longae 1.5 mm latae naviculares lateribus fulvofuscae margine utrinque pallidiores dorso trinerviae flavovirente apice subsensim angustatae acutae breviscuspidatae. Utriculi erectopatentes anguste obovati 2.5-3 mm longi 0.8 mm crassi vere trigoni facie convexi membranacei praeter nervos 2 prominentes subnervi ex toto pubescenti basi sensim cuneato-attenuati cum stipite brevi crassiusculi apice subabrupte contracti in rostrum conicocylindricum rectum 2/3 mm longum saepe fulvescentem, ore hyalino

* Botanical Institute, Faculty of Science, University of Tokyo.

** Continued from Bot. Mag. Tokyo 69: 67 (1956).

modice bidentato, dentibus acutis. Nux arcte inclusa elliptica 1.5 mm longa triquetra facie flava leviter convexa basi cuneatocontracta subestipitata apice subito contracta mucronata, stylo longo recto basi subaequali stigmatibus 3.

Japanese name: Tateshina-himesuge (Ohwi & Koyama, nov.)

Japan: near the summit of Mt. Tateshina, Prov. Shinano (K. Chino, sin. num. 1, 13 August, 1924—holotype in TNS; isotype in KYO).

Since Mr. Chino has found the type collection, none has met with this sedge. From its external appearance, it is thought to be most closely related to *C. oxyandra* commonly noted in the upper *Fagus* belt on high mountains, but the colour of scales and the basal part of sheaths, and the shape of perigynia suggest that this species has some characters seen in the section Mitratae especially in *C. nervata* or in *C. leucochlora* var. *filiculmis*. In the type specimen, however, achenes are perfect.

§14. *Eleocharis truncatovaginata*, a new species from the northern China Proper.

Eleocharis truncatovaginata T. Koyama, spec. nova e serie Palustred sectionis Palustriformes; summa affinitas quoad habitum *E. valleculosae* Ohwi a qua tamen distinguitur culmis non cinereis, squamis brevioribus obtusioribusque, stylopodio multo minore et minus spongioso, et nucis formâ.

Perennis rhizomate subnullo, stolonibus subtenuibus longe repentibus rigidis rufofuscis paucis agente. Culmi ex unico rhizomate multi pluresve subdense caespitantes erecti vel sursum curvuli 15–25 cm alti 0.8–1.2 mm crassi laevi pluricostulati vix compressi in sicco basi vaginis paucis obsiti. Vaginae basilares 3–4, inferiores subspathaceae tenuimembranaceae fuscorubentes vel fuscopurpureae apice oblique sectae obtusulae scariosae dilute coloratae, summa vere cylindrica 4–6 cm longa 1–1.5 mm lata herbacea sordide virens basem culmi arcte circummeans apice vertice secta integra subcartilaginea. Spicula solitaria terminalis ebracteata lanceolato-oblonga usque cylindrica (6–) 10–15 mm longa circiter 4 mm in diametro fuscata spisse pluriflora apice acuta. Squamae inferiores 2 steriles culmum 1/2-amplexantes late ovatae apice rotundae; reliquae fertiles ovatae 2–2.2 mm longae 1.4 mm latae naviculares tenuimembranaceae dorso late fuscae fulvae lateribus flavo-fuscescentes marginibus late hyalinae subtranslucentes apice valde obtusae hyalinae, costa lata flavovirenti uninervia. Nuclei latiuscule ellipsoideae biconvexae 1–1.3 mm longae 0.8 mm latae facie fulvolutescentes laeves basi cuneatoattenuatae apice rotundocontractae, stylopodio conico vel adpresse trapezoideo 1/3–1/4–nucis latitudini aequi-

lato, stylo recto gracili laevi apice in stigmata 2 cum stylo aequantes fuscopapulosi continuanti. Setae hypogynae 4 graciles sed rigidulae nuce sesqui longiores luteo-fuscae dense retrorsim spinulososcae. Stamina 3; antherae lineares 1.8 mm longae, connectivo linearideltoideo acuto minute papuloso.

China, Shansi: Yüan Chü (M. Tatewaki 772!, 18 May, 1938—holotype in TI); between Hêng Fêng Kuan and Chuan Shan (M. Tatewaki 422!—TI); Niang Tzu Kuan (M. Tatewaki and I. Hurusawa 4!—TI); Chieh Tsun (M. Tatewaki 732!—TI); Nr. Wu Tai Hsien Cheng (M. Tatewaki 1602!—TI).

Of all Spike Rushes hitherto known from Asia, the present species arises closest to Japanese *Eleocharis valleculosa* Ohwi from which it differs by its softer not cinereous culms, far smaller stylebase, ellipsoid nuts with lighter coloured faces, and shorter scales more obtuse at the tip. In Dr. Migo's collection from the Central China, there was a very young Spike Rush which I could not determine accurately (*Eleocharis* sp.: Ohwi et T. Koyama in Bull. National Sci. Mus. N. S. 3; 27. 1956). The vegetative appearance of this new species strikingly resembles that of the latter one, except for the light brown colour of scales. *E. valleculosa* Ohwi of Japan, *E. truncatovaginata* T. Koyama of the Northern China, *E. ambigua* Fernald of the North America, and the uncertain Central Chinese one form a small distinct group to the series Palustriformes characterized by relatively tough extensive stolons, distinctly several-angled somewhat firm culms very often opaque, and the truncate cartilaginous margin of the orifice of the uppermost basal sheath.

§ 15. A new variety of *Carex atroviridis*.

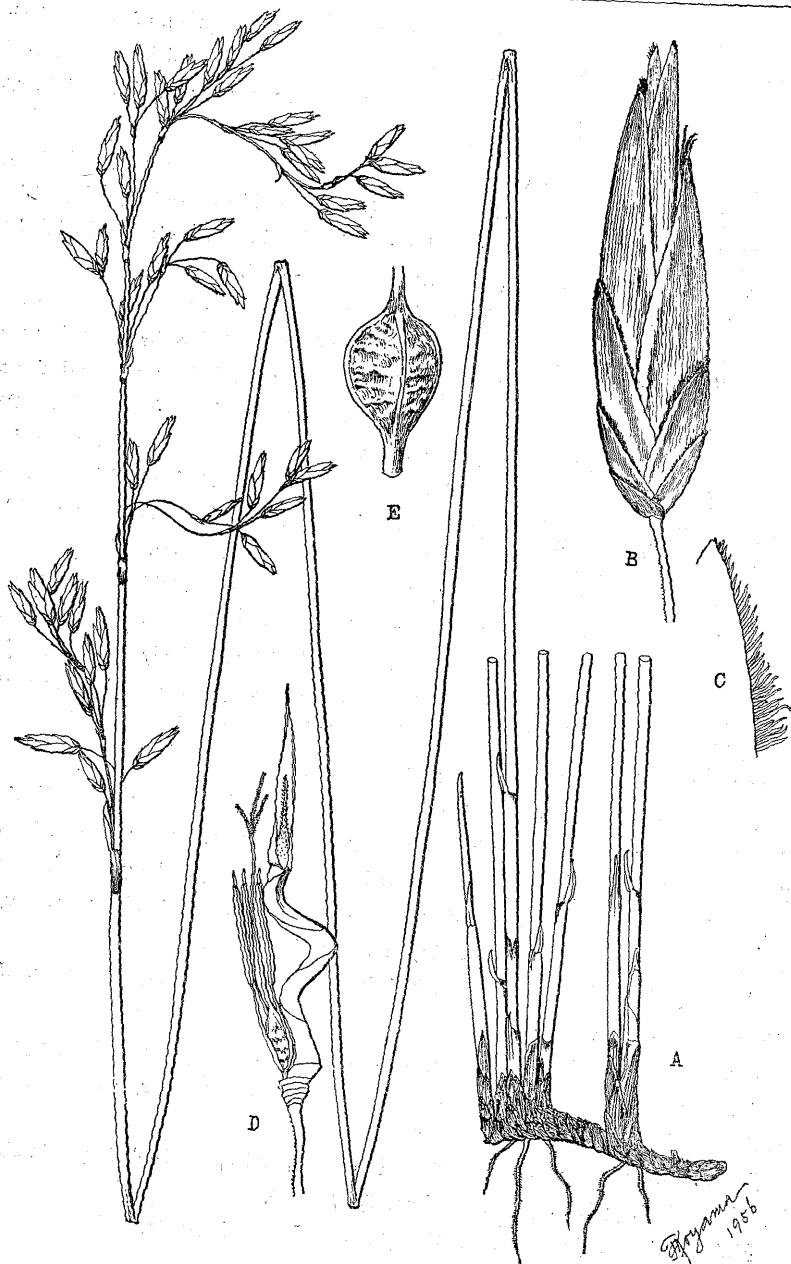
A sedge described below differs from the typical *Carex atroviridis* Ohwi of Yakushima Is. chiefly by larger habit, densely flowered more or less comose lateral spikelets, scabrid peduncle, and pistillate scales terminated by a long very scabrous awn. This sedge was collected in Nakanoshima Is. of Tokara Islands where a very interesting species *C. tokarensis* T. Koyama was also found.

Carex* (Mitratae) *atroviridis Ohwi in Mem. Coll. Sci. Kyoto Imper. Univ. ser. B, 6: 241 (1931).

var. ***scabrocaudata*** T. Koyama, var. nova; a typo habitu majore, squamis foemineis ex apice in aristam longam valde scabram excurrentibus, spiculis lateralibus densius floriferis et comosis, pedunculo scabro recedit.

Japan. Tokara Isls.: Is. Nakanoshima (R. Naito, 17/IV/1935!—holotype in Herb. Kagoshima Univ.); ibid. (S. Hatushima, 8/II/1952!).

§ 16. Note on *Schoenus Hattorianus* of Bonin Islands.



Hayami
1956

Schoenus Hattorianus Nakai is a large rush-like species of *Schoenus* first reported from Is. Chichijima of Bonin Isls. It has a strange appearance by tall stiff aphylous culms arising from each node of thick woody long-creeping rhizome covered tightly with red-brown hard scales, thus arranging in a row, and opaque ferruginous spikelet disposing in a relatively loose slender panicle terminating the culm. Since I noticed that this and Australian *Schoenus brevifolius* were so similar that I could not distinguish them from descriptions, I compared the plants from Bonin with *Sch. brevifolius* recently obtained from Queensland, and found that there is no difference between them. Thus:

Schoenus brevifolius R. Brown, Prodr. Flor. Nov. Holl. 231 (1810); Kunth, Enum. Plant. 2: 235 (1837); Bökeler in Linnaea 38: 283 (1874); F. v. Mueller, Fragm. Phytogr. Austral. 9: Benth, Flor. Austral. 7: 370 (1878); Cheeseman, Man. N. Zeal. Flora 780 (1906).

Chaetospora tenax Hook. fil., Fl. N. Zel. 1: 273 (1853)—*Sch. tenax* (Hook. fil.) Hook. fil. Handb. N. Z. Fl. 298 (1964)—*Sch. Hattorianus* Nakai in Bot. Mag. Tokyo 26: 97 (1912) e typo.

Besides Bonin Isls. this plant has hitherto been known from Australia and New Zealand, but it is thought to be dispersing widely in Oceania as often seen in *Machaerina* spp. Although it is certain that the Flora of Bonin has very high endemism, the comparison of that Flora with those of Hawaiian Islands, Micronesia, and even of Australia and New Zealand is still needed especially in Cyperaceae. Both *Carex Hattorianus* and *C. Toyoshimae* are good species, however, concerning some taxa of *Machaerina* and *Rhynchospora* I am not certain whether they hold good, since I have not enough material to compare.

§ 17. On *Scirpus borealis* (Ohwi) T. Koyama.

In preparing the treatment of Cyperaceae for Dr. Ohwi's Flora of Japan, I made some new combinations relating to *Cladium*, *Cyperus* and *Scirpus*. They were published separately* except *Scirpus Wichurii* Böckl. var. *borealis* Ohwi raised to a specific status. *Scirpus Wichurii* Böckl., one of the most common Japanese bulrushes, is not closely related to the European species of the genus, but is connected with the North American ones belonging to the sections *Androcoma*

* Act. Phytotax. Geobot. 16: 5-12 (1955); l. c. 33-37 (1955); Bot. Mag. Tokyo 69: 212-213 (1956). 8

Fig. 8. *Schoenus brevifolius* R. Brown. A. Total plant $\times 2/3$; B. Spikelet $\times 6$; C. Ciliae on the margin of lower scale $\times c. 10$; D. Rhachilla $\times 6$; E. Achene $\times 8$.

and *Trichophorum*. The chief difference between these two sections is the length of the hypogynous bristles of mature achene, not or slightly exceeding the scale in the former section, and much exceeding the scale and often hiding the upper half of the mature spikelets in the latter. I noticed that the form of inflorescence and spikelets also can be used as characters by which these sections are readily separated. The species of *Androcoma* have both terminal and lateral corymbs, of which the body is usually ovoid or ellipsoid, while in *Trichophorum*, corymbs are solitary and terminal, and their bodies are obconical with a depressed centre. The mature spikelets are globose in the latter, and more or less elongated, thus oblong or ellipsoid in the former.

Our var. *borealis* Ohwi is, therefore, evidently a member of the section *Trichophorum*, whereas *Scirpus Wichurii* itself, to which var. *borealis* has hitherto been attributed, is apparently a member of the section *Androcoma*. The contrasting elements of *S. Wichurii* and *S. borealis* in each region are given in the table below.

Table 2.

(Chinese Continent)	(Japan)	(N. America)
<i>S. borealis</i> T. Koyama	<i>S. borealis</i> T. Koyama	<i>S. cyperinus</i> Kunth
<i>S. rushanensis</i> Ohwi	<i>S. Wichurii</i> Böckl.	<i>S. lineatus</i> Michx.

***Scirpus* (*Trichophorum*) *borealis* (Ohwi) T. Koyama, stat. nov.**

Scirpus Wichurii Böckeler var. *borealis* Ohwi in Maebara, Flor. Austro-Higo. 84 (1931); Kitagawa, Lineam. Fl. Mansh. 123 (1939)—Proxime ad hanc speciem accedit *S. cyperinus* Kunth, tamen a nostra specie spiculis ovalibus non globosis, squamis tenuioribus non rufofuscis, costa inconspicua, nuce minore etc. distinguitur.

Perennis caespitans, rhizomate brevi ascendente. Culmi 7–15 dm alti 5–8 mm crassi obtuse trigoni laeves 6–9-nodosi ad nodos fuscotincti, internodiis 10–15 (–20) longis. Folia basilaria et caulina linearia 7–15 mm lata subcoriacea culmis breviora unicastata apice gradatim acuminata subtus plus minus septato-nodulosa marginibus scabra; vaginae foliorum caulinarum culmum arcte circumdantes dimidio internodii aequilongae, ligulis paene nullis. Corymbus terminalis et solitarius obconicus 7–15 cm longus ac latus dense plurispiculosus; bracteae foliaceae inflorescentiam excedentes aequantesve; radii oblique patentes ad 10 cm longi laeves; prophylla ochreiformia apice bi-cuspidata dorso ad costas 2 sursum hispida; corymbi secundarii

scabris ad 3 cm longis et bracteolis radio brevioribus basi vaginantibus; Spiculae numerosae 1-4-aggregatae rufo-vel ferrugineo-fuscae globosae 2.5-3.5 mm in diametro (2.5-) 3-4 mm longae spisse pluriflorae. Squamae ovatae vel late ovatae 2-2.5 mm longae membranaceae apice rotundae et acutae mucronataeve dorso virides unicostatae. Nuclei obovatae compressae triquetrae pallide flavescentes apice mucronatae basi cuneatocontractae, stylo apice trifido, setis hypogynis 6 laevibus vel apice spinulis minutis scabris nucleum multo longioribus valde crispis maturitate elongatis et squamam longius excedentibus.

Nom. Japon. Yezo-aburagaya.

Distrib. Japan (Hokkaido, Honshu, Kyushu), Korea, Manchuria, Ussuri.

摘 要

13. 新種タテシナヒメスゲ (蓼科姫薹)——本種は 30 余年前信州の千野喜重郎氏が蓼科山で見出されたものであるが、当時標本が不完全のため大井先生は公式の発表を控えて居られたが、今回千野氏より完全なものが大井先生の許へ送られたため新種なる事が確定となった。大井先生の御都合により私が代つて記載する。ヒメスゲより一段と細く、果胞も小形で、全体に褐紫色を欠く。アラスゲとシバスゲの形質を多分に持つて居るが、産地の標高から言つて雑種とは考え難い。

14. 九州や河口湖に産するスズヌマハリキの近縁種を山西省から記載した。東西のスズヌマハリキ群とスズヌマハリキ群とはかなり科と匍枝の性質を異にするが、丁度この 2 群の中間の性質を持つものが欧州や北米の *Eleocharis palustris* 群である。

15. 吐噶喇列島中の島からヤクシマカンスゲの一変種を記載した。同地からは昨年植物分類地理にトカラカンスゲ *Carex tokarensis* を書いたが、スゲの相は独特のもの如くに感じられる。

16. 小笠原に産するジヨウキ (丈蘭) はオーストラリアやニュージーランドの *Schoenus brevifolius* と全く同一である。スゲ属を除くカヤツリグサ科、特にノグサ属・ネビキグサ属は小笠原列島のものと大洋洲の各地のものとはかなり関係が深いと考えられるが、本種はその一例で、追ひ追ひ資料を得て検討して行き度い。

17. 今迄アブラガヤの一型として扱われたエゾアブラガヤは前記 (欧文) の如く別種とするのがよいと思う、瘦果の形や大きさはアブラガヤのグループでは、種類を仕分けするにはよい特徴とは言えない。どの種類でも殆んど同形同大であり乍ら、又一面かなりの変異を示すからである。これからは別の形質を取上げて行かねばならない。